

## MULLUSKS COLLECTED IN BASS ISLAND REGION, LAKE ERIE

BY ELBERT H. AHLSTROM

The following collections were made during the summers of 1928 and 1929 under the supervision of Dr. Frederick Kreeker while at the Franz Theodore Stone Laboratory on Gibraltar Island, Lake Erie. The identification of the material itself was made at Marietta College. Professor H. R. Eggleston aided in the identification of the naiades, while David T. Jones reviewed the snails. Professor Calvin Goodrich of the University of Michigan identified *Carunculina parva*, *Quadrula pustulosa prasina*, and *Dysnomia perplexa* possibly variety *rangiana*.

*Vallonia costata* (Müller), Gibraltar Island, Green Island.  
*Vallonia parvula* Sterki, Gibraltar Island, Green Island,  
Sandy Beach at East Harbor.

*Vallonia pulchella* (Müller), Buckeye Island, Green Island.  
*Polygyra albolabris* (Say), East Sister Island, Green Island,  
Middle Bass Island, Put-in-Bay Island, Sandy Beach at  
East Harbor.

*Polygyra inflecta* (Say), Gibraltar Island, Green Island,  
Middle Bass Island, Put-in-Bay Island, Sandy Beach at  
East Harbor.

*Polygyra monodon* (Rackett), Lakeside (Michigan)—one  
specimen.

*Polygyra multilineata* (Say), Lakeside (Michigan), Put-in-  
Bay Island, Sandy Beach at East Harbor.

*Polygyra multilineata rubra* (Witter), Lakeside (Michi-  
gan).

*Polygyra profunda* (Say), East Sister Island, Gibraltar  
Island, Green Island, Lakeside (Michigan), Put-in-Bay,  
Sandy Beach at East Harbor.

*Polygyra profunda strontiana* Clapp, Green Island.

*Polygyra thyroidus* (Say), Middle Bass Island, Put-in-Bay  
Island.

*Gastrocopta armifera* (Say), Buckeye Island, Gibraltar  
Island, Green Island.

- Gastrocopta contracta* (Say), Buckeye Island, Gibraltar Island, Green Island, Sandy Beach at East Harbor.
- Cochlicopa lubrica* (Müller), Gibraltar Island, Green Island, Sandy Beach at East Harbor.
- Glyphyalina indentata* (Say), Buckeye Island, Gibraltar Island, Sandy Beach at East Harbor.
- Zonitoides arboreus* (Say), Buckeye Island—high spired form, Gibraltar Island, Green Island.
- Zonitoides nitidus* (Müller), Buckeye Island, Green Island.
- Pseudovitrea minuscula* (Binney), Buckeye Island, Gibraltar Island.
- Anguispira alternata* (Say), East Sister Island, Gibraltar Island, Middle Bass Island, Put-in-Bay Island, Sandy Beach at East Harbor.
- Anguispira alternata eriensis* Clapp, Green Island, Sandy Beach at East Harbor.
- Anguispira solitaria* (Say), East Sister Island, Gibraltar Island, Middle Bass Island, Put-in-Bay Island.
- Anguispira solitaria strontiana* Clapp, Green Island.
- Gonyodiscus cronkhitei anthonyi* (Pilsbry), Buckeye Island, Gibraltar Island, Green Island.
- Helicodiscus parallelus* (Say), Buckeye Island, Gibraltar Island, Green Island.
- Succinea avara* (Say), Green Island, Sandy Beach at East Harbor.
- Succinea retusa* (Lea), Lakeside (Michigan), Middle Bass Island, North Bass Island, Put-in-Bay Island, Sandy Beach at East Harbor.
- Radix auricularia* (Linné), Lakeside (Michigan), Squaw Harbor at Put-in-Bay.
- Stagnicola palustris elodes* (Say), Wehrle's Pond.
- Stagnicola reflexa* (Say), Small pond on Buckeye Island, Dollar's dock at Put-in-Bay, Fisher's Pond, Fox's Pond, Small pond near Fox's, Haunch's Pond, Lakeside (Michigan).
- Fossaria parva* (Lea), Buckeye Island shore, Gibraltar Island dock, Sugar Island dock, Terwilliger's Pond on Put-in-Bay Island.

- Fossaria obrussa* (Say), East Harbor, Gibraltar Island dock, Lakeside (Michigan), Squaw Harbor, Terwilliger's Pond.
- Helisoma antrosa percarinata* (Walker), Lakeside (Michigan).
- Helisoma trivolvis* (Say), Dollar's dock, East Harbor, Fisher's Pond, Fox's Pond, Haunch's Pond, Lakeside (Michigan), Squaw Harbor, Terwilliger's Pond, Wehrle's Pond.
- Menetus exacuus* (Say), Fisher's Pond.
- Gyraulus parvus* (Say), East Harbor, Wehrle's Pond.
- Planorbula crassilabris* (Walker), Fox's Pond.
- Physella gyrina hildrethiana* (Lea), Dollar's dock, Fisher's Pond, Fox's Pond, Small pond near Fox's, Haunch's Pond, Lakeside (Michigan), Terwilliger's Pond, Wehrle's Pond.
- Physella sayii* (Tappan), Lakeside (Michigan).
- Physella magnalacustris* (Walker), Buckeye Island Shore, Dollar's dock, East Harbor, East Sister Island shore, Gibraltar Island dock, Squaw Harbor, Sugar Island dock.
- Ferrissia parallela* (Haldeman), Squaw Harbor.
- Ferrissia rivularis* (Say), East Harbor, Sugar Island dock, Middle Bass Island shore.
- Campeloma decisum* (Say) Alligator bar off Gibraltar Island—large form, Dollar's dock, Lakeside (Michigan), Mouth of Detroit River.
- Valvata tricarinata* (Say), Dredgings from Lake Erie; Lakeside (Michigan).
- Bithynia tentaculata* (Linné), Lakeside (Michigan).
- Amnicola limosa parva* (Lea), Dredgings from open lake, East Harbor.
- Somatogyrus subglobosus* (Say), Dredgings from open lake.
- Somatogyrus integer* (Say),—possibly a northern variety—Lakeside (Michigan), Sugar Island dock.
- Pleurocera acuta* Rafinesque, dead shells abundant along lake shore.
- Goniobasis livescens* Menke, Buckeye Island shore, Dollar's dock, East Harbor, Fishery Bay, Gibraltar Island dock, Middle Bass Island shore, Mouth Raisin River, Squaw Harbor, Sugar Island dock.

- Quadrula pustulosa prasina* (Conrad), Shells on Gibraltar Island shore; living—East Harbor.
- Quadrula quadrula* (Rafinesque), Shells—Lakeside (Michigan).
- Cyclonaias tuberculata* (Rafinesque), Shells — Gibraltar Island shore, Lakeside (Michigan), Middle Bass Island shore.
- Amblyma plicata* (Say), Shells everywhere; living—East Harbor.
- Fusconaia flava parvula* Grier, Shells everywhere; living—off Buckeye Island, East Harbor, off Rattlesnake Island.
- Pleurobema coccineum pauperulum* (Simpson), Shells—Lakeside (Michigan), Middle Bass Island shore.
- Elliptio dilatatus sterki* Grier, Shells everywhere; living—off Rattlesnake Island.
- Strophitus rugosus* (Swainson), Shells common; living—East Harbor.
- Anodonta grandis* Say, Shells common; living—off Rattlesnake Island.
- Ptychobranhus fasciolaris* (Rafinesque), Shells everywhere.
- Obliquaria reflexa* (Rafinesque), Shells—Lakeside, Michigan, Put-in-Bay; living—East Harbor.
- Proptera alata* (Say), Shells everywhere; living—off Rattlesnake Island.
- Leptodea fragilis* (Rafinesque), Shells abundant; living—off Rattlesnake Island.
- Obovaria leibii* (Lea), Shells everywhere; living—off Rattlesnake Island.
- Carunculina parva* (Barnes), living—East Harbor—one specimen.
- Eurynia nasuta* (Say), Shells everywhere; living—East Harbor.
- Ligumia recta* (Lamarck), Shells everywhere; living—East Harbor, Channel near Sugar Island.
- Lampsilis siliquoides rosacea* (DeKay), Shells abundant; living—East Harbor, off Rattlesnake Island.

*Lampsilis ventricosa canadensis* (Lea), Shells everywhere; living—East Harbor.

*Truncilla donaciformis* (Lea), Living—East Harbor, off Rattlesnake Island.

*Dysnomia perplexa* possibly variety *rangiana* (Lea), Shells everywhere, but not common.

*Dysnomia triquetra* (Rafinesque), Shells common.

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#### THE STATUS OF PAPHIA TENERRIMA ALTA WATERFALL

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In a study of the paleontology of the Fernando Group of California L. N. Waterfall (Univ. Calif. Pub., Bull. Dept. Geol. Sci., Vol. 18, No. 3, 1929, p. 85, pl. 6, fig. 1) described *Paphia tenerrima* subspecies *alta* from the "Saugus" Pleistocene. He said (*loc. cit.*) of the supposed subspecies: "This subspecies is very similar to *Paphia tenerrima* Carpenter, but is readily distinguished by its relatively greater height and more strongly vertical truncated posterior end." And also: "Similar types of variations to this are noted in the living *P. tenerrima*, so that the writer has no hesitation in placing the two specimens collected in the same subspecies"—in spite of which he listed (*op. cit.*, checklist opposite p. 78) the "subspecies" as extinct.

During an examination of a fauna from the Pleistocene of the Puget Sound region a specimen was found which proved to be indistinguishable from *P. t. alta*. A study of the validity of this name was made resulting in the following conclusions.

First, the variety "*alta*" is simply an unusually high specimen of *P. tenerrima* Carpenter which falls within the distribution curve of that species as a perfectly normal end member. As it is coexistent, both geographically and temporally, with the typical form it cannot be regarded as more than a variety, and does not, in my estimation, merit even a varietal name.